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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,137	04/23/2001	Akira Akashi	862.C2206	1611
5514	7590	06/07/2006	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO			EDWARDS, PATRICK L	
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NEW YORK, NY 10112			PAPER NUMBER	
			2624	

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/839,137	Applicant(s) AKASHI, AKIRA	
	Examiner Patrick L. Edwards	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 10-17 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17, 19-24, 26-27 is/are rejected.
- 7) ☒ Claim(s) 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03-31-2006 has been entered.

### *Allowable Subject Matter*

2. Claim 25 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 2, 11, 20, 21, 22, 24, 26, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Rhoads et al. (US 2002/0080997 A1 (now USPN 6,738,495)).

#### Regarding claim 11:

Rhoads discloses **manually selecting one of a plurality of embedding modes to be used in the embedding step, each of the embedding modes having different robustness from each other** (Rhoads paragraph [0021]: The user selects between one of three watermarking modes (embedding modes) that are all different in robustness from each other).

**Wherein the embedding step comprises the step of executing the embedding of the predetermined data in the currently sensed image data obtained by the image sensing step in accordance with the robustness corresponding to the manually selected embedding mode** ((This step is somewhat redundant with the step from the above paragraph. It merely calls for the execution of the embedding step. Rhoads discloses the execution of this step throughout the disclosure.)).

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Rhoads discloses the step of **automatically deciding an image quality of the image to be sensed by the image sensing step in accordance with the robustness corresponding to the manually selected embedding mode** (Rhoads paragraphs [0029], [0030]: The reference describes that *the system* (i.e. automatically) adjust the compression (i.e. image quality) level based on the selected watermark intensity level.).

Wherein the image quality corresponds to a degree of compression and the decided image quality and the robustness corresponding to the manually selected embedding mode have an inversely proportional relationship (Rhoads paragraphs [0021] and [0023]: Paragraph [0021] describes the inversely proportional relationship. Paragraph [0023] describes that image quality corresponds to compression level.).

Wherein the image sensing step comprises the step of sensing an image having the decided image quality (Again, this step is somewhat redundant to the step discussed two paragraphs above. It merely recites the execution of the selected sensing mode. Rhoads discloses an actual execution (i.e. sensing) of the image throughout the disclosure.).

Regarding claims 2 and 20:

Rhoads discloses an apparatus for performing the method of claim 11, and a computer readable medium storing steps to perform the method of claim 11.

Regarding claim 27:

Rhoads discloses **manually selecting one of a plurality of image sensing modes for setting quality of an image to be sensed by the image sensing means** (Rhoads, Fig. 3).

Rhoads discloses **embedding information as a watermark in an image** (Rhoads paragraph [0024] and elsewhere throughout the specification).

Rhoads discloses the step of **automatically determining, in accordance with whether or not the image quality corresponding to the manually selected image sensing mode is lower than a predetermined quality selected in said selection step, whether to activate said embedding step** (Rhoads paragraph [0029]: The reference describes that the watermark intensity will not be further increased (i.e. the embedding step at that intensity level will not be activated).).

Rhoads discloses that **when it is determined in said determination step that the information is to be embedded, performing control to activate said embedding step to embed the information in currently sensed image data obtained in said image sensing step, and for performing—when said determination means determines that the information is not to be embedded—control to inactivate said embedding means** (Rhoads paragraph [0031]: The reference describes that the system sets aside (i.e. embedding is inactivated) when the information is not to be embedded. In situations other than this, the system goes ahead and embeds the watermark (i.e. the embedding step is activated by some control means).).

Regarding claim 21:

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Rhoads discloses an apparatus for performing the method of claim 27.

Regarding claim 22, Rhoads discloses that the information includes a user name, an image sensing date, and an image recording apparatus (Rhoads paragraph [0035]).

Regarding claim 24, Rhoads et al. disclose that the embedding means comprises first embedding means for embedding information with priority given to image quality of an image in which the information is to be embedded, and second embedding means for embedding information with priority given to robustness of the information to be embedded, and means for determining one of said first and second embedding means when information is to be embedded (see Fig. 2 and paragraph [0021]: The reference describes that three watermarking modes can be selected: low, medium, and high. If the low watermarking mode is selected priority is given to the quality of the image. If the high watermarking mode is selected priority is given to the durability (i.e. robustness) of an image.).

Regarding claim 26, this claim appears to be redundant in that it recites limitations from claim 21. Assuming that this claim is not totally redundant, the limitations have still been discussed in the discussion of claim 21 above.

#### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 7, 8, 10, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (US 2002/0080997 A1 (now USPN 6,738,495)).

#### Regarding claim 10:

The discussion of claim 11 is incorporated herein.

Claim 10 is the same as claim 11 except that the automatic and manual operations are reversed. In other words, where claim 11 recites manual selection of an embedding mode and automatic selection of a sensing mode in accordance with the embedding mode, claim 10 recites manual selection of a sensing mode and automatic selection of an embedding mode in accordance with the sensing mode.

The Rhoads reference is equally applicable to claim 10 as it is to claim 11 mainly because of paragraphs [0023], and [0041], e.g.—which explicitly states that the order of operations can be alternated. In other words, the bulk of the Rhoads disclosure is aimed at describing an operation where image quality is adjusted on account of the embedding mode, but at least paragraphs [0023] and [0041] discloses that the alternate order is just as good.

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However, because Rhoads only expressly discloses the claim 11 embodiment, he is unable to expressly disclose the limitation of **automatically deciding, in accordance with the image quality corresponding to the manually selected image sensing mode, one of a plurality of embedding modes to be used in the embedding step, each of the plurality of embedding modes having different robustness from each other**, this limitation is not anticipated by Rhoads, but rather it is obvious in view of the Rhoads disclosure. This conclusion is further supported by Rhoads disclosure that the user can manually input an image sensing mode (see Fig. 3).

Such a modification would have been obvious to PHOSITA at the time of invention. Rhoads discloses that "A trade-off must be struck between watermark durability and image fidelity." This modification would have simply allowed for an additional way of striking a balance between these two competing factors.

Regarding claims 1 and 19:

Rhoads discloses an apparatus for performing the method of claim 10, and a computer readable medium storing steps to perform the method of claim 10.

Regarding claims 7, 8, 16, and 17, Rhoads discloses that the embedding mode defines a type of watermarking represented by the predetermined data to be embedded, and that this type of watermarking is defined by a value associated with an embedding strength of the predetermined data (see Rhoads paragraph [0022]).

7. Claims 3-6 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads et al. as applied to claims 1 and 10 above, and further in view of Narayanaswami et al. ( US 2003/0011684 A1). The arguments as to the relevance of Rhoads et al. as applied above are incorporated herein.

As applied to claims 3 and 12, Narayanaswami et al. disclose that the first item defines values associated with an exposure time and aperture of said apparatus (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including exposure duration (i.e. exposure time) and aperture setting (i.e. aperture of said apparatus)).

As applied to claims 4 and 13, Narayanaswami et al. disclose that the first item defines a value associated with a continuous-exposure frame count of said apparatus (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including frame number (i.e. a value associated with a continuous-exposure frame count of said apparatus)).

As applied to claims 5 and 14, Narayanaswami et al. disclose that the first item defines a value associated with image quality of a sensed image (see paragraph [0034]: The reference describes that camera electronic circuitry 128 defines parameters including image quality (e.g. high, medium, or low)).

As applied to claims 6 and 15, Narayanaswami et al. disclose that the first item defines a value associated with sensitivity with respect to an amount of light received (see paragraph [0034]: The reference describes that camera

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electronic circuitry 128 defines parameters including shutter speed, which determines the amount of light received. Therefore, this value is associated with sensitivity.).

With respect to all of the above claims, Rhoads does not disclose that the image sensing modes are specifically defined as above. However, Narayanswami discloses all of these image sensing modes. It would have been obvious to one reasonably skilled in the art at the time of the invention to modify the image sensing mode Rhoads to include the specific image sensing modes discloses in Naryanswami. Such a modification would have allowed for different ways of capturing the image.

8. Claims 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rhoads et al. (U.S. Patent Application Publication US 2002/0080997 A1), as applied to claim 21, in combination with Isnardi et al. (U.S. Patent No. 6,037,984 A).

Claim 23 calls for selectively embedding either a visible watermark or an invisible watermark.

This feature is absent from Rhoads et al. However, Isnardi et al., in the same field of endeavor of image processing and the same problem solving area of digital watermarking, discloses selectively embedding a visible or invisible watermark (see column 2, lines 43-46: The reference describes that the magnitude of the watermark values and their placement in the DCT array can be adjusted to selectively produce a visible or invisible watermark.).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Rhoads et al. by adding the ability to selectively embed either a visible watermark or an invisible watermark as taught by Isnardi et al. because such a process allows for the system to selectively watermark an image with the best type of watermark for a specific application.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Hayashi et al. (USPN 6,694,040) – discloses methods of improving robustness without deteriorating image quality

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (571) 272-7390. The examiner can normally be reached on 8:30am - 5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe Mancuso can be reached on (571) 272-7695. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

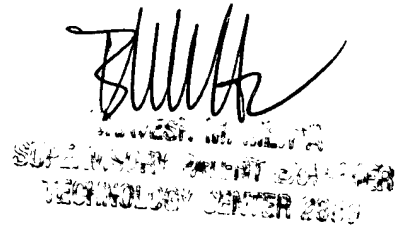
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick L Edwards

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A handwritten signature, possibly reading "ple", written in dark ink.A handwritten signature in dark ink, followed by a circular official stamp. The stamp contains the text "SUPERVISOR" and "TECHNOLOGY CENTER 2009".